

WHAT IS CLAIMED IS

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1. Packer apparatus for packing cartons into boxes, and comprising;  
at least one carton transfer location where cartons accumulate for transfer;  
a box packing location adjacent the transfer location;  
means for gripping the cartons in a group at the transfer location;  
means for moving the gripped group of cartons from the transfer location to the  
packing location; and;  
means for depositing the group of cartons in the box at the packing location.
  2. Packer apparatus for packing cartons into boxes as claimed in claim 1  
wherein there are two said transfer locations, and wherein cartons accumulate at  
each said transfer location in a said group.
  3. Packer apparatus for packing cartons into boxes as claimed in claim 2  
wherein said box packing location is positioned between said two carton transfer  
locations.
  4. Packer apparatus for packing cartons into boxes as claimed in claim 3  
wherein said gripper means includes at least one gripper assembly, said  
assembly having pairs of clamp bars operable towards and away from one  
another for gripping and for releasing said cartons.

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5. Packer apparatus for packing cartons into boxes as claimed in claim 4 wherein said moving means includes a gripper support, said support being moveable from one said carton transfer location to said box packing location, and back again.

6. Packer apparatus for packing cartons into boxes as claimed in claim 5 wherein there are two said gripper assemblies, and wherein said gripper support supports both said gripper assemblies, and wherein movement of said gripper support moves one said gripper assembly from a said transfer location to said box packing station, while said other gripper assembly is moved simultaneously from said box packing location to said other of said transfer locations.

7. Packer apparatus for packing cartons into boxes as claimed in claim 6 wherein said moving means is operable to procure intermittent start stop operation of said gripper support, thereby causing one said gripper assembly to dwell at a transfer location while the other said gripper assembly dwells at said packing location.

8. Packer apparatus for packing cartons into boxes as claimed in claim 7 including raising and lowering means for respective said gripper assemblies operable to raise and lower their respective said gripper assemblies, wherein said raising and said lowering take place when said gripper support is stopped.

9. Packer apparatus for packing cartons into boxes as claimed in claim 8 wherein both said gripper assemblies are lowered and raised simultaneously.

10. Carton gripper apparatus for gripping groups of cartons for packing said groups into boxes, and comprising;

a gripper body member;

a plurality of slide rods supported on said gripper body member;

a plurality of pairs of clamp bars slideable along said slide rods; and,

means for moving said pairs of clamp bars towards one another into a gripping position and away from one another into a releasing position.

11. Carton gripper apparatus for gripping groups of cartons for packing as claimed in claim 10 and including bearing openings in said clamp bars, and wherein said slide rods extend through respective said bearing openings.

12. Carton gripper apparatus for gripping groups of cartons for packing as claimed in claim 11 and wherein said clamp bars comprise respective pairs of first and second clamp bars and wherein said first ones of said pairs are secured to first ones of said slide rods, and wherein second ones of said clamp bars are secured to second ones of said slide rods.

13. Carton gripper apparatus for gripping groups of cartons for packing as claimed in claim 12 and wherein each of said first clamp bars has slide openings

therethrough for receiving said second slide rods therethrough, and wherein each of said second clamp bars has slide openings therethrough for receiving said first slide rods therethrough.

14. Carton gripper apparatus for gripping groups of cartons for packing as claimed in claim 13 and including a head plate, and two side walls depending downwardly therefrom, slide opening in said side walls for receiving said first and second slide rods therethrough, and power means supported beneath said head plate between said walls..

15. Carton gripper apparatus for gripping groups of cartons for packing as claimed in claim 14 and including rods extending from said power means, and being connected to said group of said first clamp bars, and being connected to said second group of clamp bars, and being operable to move said first group and said second group simultaneously towards or away from one another. wherein

Sub A-3 16. A method of packing cartons into boxes, and comprising the steps of; accumulating cartons in groups at at least one carton transfer location; moving an open empty box to a box packing location adjacent the transfer location; gripping the cartons in a group at the transfer location;

moving the gripped group of cartons from the transfer location to the packing location; and;

depositing the group of cartons in the box at the packing location.

17. The method of packing cartons into boxes as claimed in claim 16, including accumulating cartons at two said transfer locations, wherein said box is moved to said packing location positioned between said two carton transfer locations.

18 The method of packing cartons into boxes as claimed in claim 17 wherein said cartons have sealed seams at their upper ends and including the step of gripping a said group of cartons by gripper means having pairs of clamp bars and moving said clamp bars towards one another for gripping said cartons along respective said carton seams, and away from one another for releasing said cartons.

19 The method of packing cartons into boxes as claimed in claim 18 including a gripper support, and including the step of moving said support from one said carton transfer location to said box packing location, and back again, and wherein there are two said gripper assemblies, and wherein said gripper support supports both said gripper assemblies, and wherein the step of moving of said gripper support moves one said gripper assembly from a said transfer location to said box packing station, while said other gripper assembly is moved

simultaneously from said box packing location to said other of said transfer locations.

20. The method of packing cartons into boxes as claimed in claim 19 including the step of moving said support means to procure intermittent start stop operation, thereby causing one said gripper assembly to dwell at a transfer location while the other said gripper assembly dwells at said packing location.

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